

streaming media data to the client computer from the host computer via the network according to the client computer specific parameter.

5. (New) The method of distributing media data according to Claim 4, wherein said client computer specific parameter comprises the processing capability of the client computer.

6. (New) The method of distributing media data according to Claim 5, wherein said streaming media data is at a rate compatible with the processing capability of the client computer.

7. (New) The method of Claim 6, wherein the media data stream is sent to the client computer while another media data stream is sent to another client at an independent rate.

8. (New) The method of Claim 4, wherein the client computer specific parameter is selected from the group consisting of video source selection, audio source selection, audio and video source selection, frame rate, compression level, image resolution, image brightness, image contrast, and image view.

9. (New) The method of Claim 4, wherein the client computer is selected from the group consisting of a microprocessor- or processor-controlled device or system that permits access to a network, including a terminal device, such as a personal computer, a workstation, a server, a client, a mini-computer, a main-frame computer, a laptop computer, a network of individual computers, a mobile computer, a palm-top computer, a hand-held computer, a set top box for a television, an interactive television, an interactive kiosk, a personal digital assistant, an interactive wireless communications device, and a mobile browser.

10. (New) The method of Claim 4, wherein the media data comprises audio data.

11. (New) The method of Claim 4, wherein the media data comprises video data.

12. (New) The method of Claim 4, wherein the media data comprises video and audio data.

13. (New) The method of Claim 4, further comprising:

launching a delay monitoring module on the client computer;

detecting a changed multimedia data stream transmission at the client computer;

sending a request via a network to a host computer requesting a changed multimedia data stream rate transmission;

sending a client computer specific parameter to the host computer via the network; and

sending a media data stream to the client computer via the network according to the client specific parameter.

14. (New) The method of Claim 13, wherein detecting the media data stream transmission change occurs at a regular interval.

15. (New) The method of Claim 13, wherein detecting the media data stream occurs at a specific departure from a current transmission rate.

16. (New) The method of Claim 13, wherein the media data stream is sent to the client computer while another media data stream to another client is sent at an independent rate.

17. (New) The method of Claim 4, wherein the media data includes a video image, and further comprising:

selecting a region of the video image to view on the client computer;

sending a request to the host computer via the network requesting transmittal of data corresponding to the selected region of the video image; and

sending data to the client computer via the network corresponding to the selected region of the video image.

18. The method of Claim 17, wherein successive regions are selected and viewed permitting panning.

19. (New) The method of Claim 4, further comprising updating a dynamic domain name system (DNS) by a host with a dynamic IP address comprising a process of:

connecting the host to the network;

determining if the host has a new IP address;

checking for a subsequent IP address change at regular intervals; and

if the host has a new IP address, then:

sending a request to a DNS server to update the IP address; and

sending to the host updated status from the DNS server.

20. (New) The method of Claim 19, wherein the DNS server provides the client computer with an updated IP address.

21. (New) The method of Claim 19, wherein the host computer specifies a schedule of availability to the DNS server.

22. (New) The method of Claim 19, wherein the DNS host server directs the client to a message website posting the host's schedule, if the host is unavailable.

23. (New) The method of Claim 19, wherein the DNS host server monitors when the host is connected to the network and when the host is not connected the DNS host server refers the client to a message website posting the host's schedule.

24. (New) The method of Claim 4, further comprising video motion detection, which detection is determined on a block level, by the process comprising:

receiving a video image;

subdividing the video image into a grid of blocks;

processing every block from the grid of blocks according to the following:

determining a cross correlation by comparing an individual block from a current grid of blocks with a corresponding individual block from a previous grid of blocks;

if the cross correlation is below a predetermined correlation threshold level, then:

calculate the variance in the brightness of the block over the corresponding block of the previous image;

if the variance in the brightness is above a variance threshold, then mark the block as having motion;

if the variance in the brightness is below the variance threshold, then mark the block as not having motion;

if the cross correlation is above the predetermined threshold level, then mark the block as not having motion; and

repeating the processing until video motion detection is determined for every block in the grid.

25. (New) The method of Claim 4, wherein motion detection is determined on a frame level comprising:

obtaining a reference video frame;  
obtaining a current video frame;  
determining motion detection on a block level comparing the current video frame to the reference video frame such that a number of blocks with motion detection is determined;  
calculating a fraction of video blocks having motion;  
if the fraction is below a low threshold value, then no motion is detected for the current video frame;  
if the fraction is above the low threshold value, then determine if the fraction is below a medium threshold value;  
if the fraction is below the medium threshold value, then perform a slight response, log the motion and log the first 12 images having motion;  
if the fraction is above the medium threshold value, then determine if fraction is below a high threshold value;  
if the fraction is below the high threshold value, then perform a moderate response, log the motion and log the first 12 images having motion;  
if the fraction is above the high threshold value, then perform a severe response, log the motion and log the first 12 images with motion.

26. (New) The method of Claim 25, wherein the slight response is selected from the group consisting of transmitting a first email notification to an address determined by the host user, sounding an audible alert, originating a phone call to a first number determined by the host user, and initiating predetermined control of external hardware.

27. (New) The method of Claim 25, wherein the moderate response is selected from the group consisting of transmitting a first email notification to an address determined by the host user, sounding an audible alert, originating a phone call to a first number determined by the host user, initiating predetermined control of external hardware, transmitting a second email message indicating the detected motion lies within the second range, and initiating a second predetermined phone message directed to a phone number determined by the host user.

28. (New) The method of Claim 25, wherein the severe response is selected from the group consisting of transmitting a third email message to a predetermined address, originating a phone call with a "severe" message to a predetermined phone number, originating a phone call to a predetermined emergency phone number, and controlling external hardware associated with severe responses.

29. (New) The method of Claim 25, wherein the logged images are time stamped.

30. (New) The method of claim 4, further comprising transmitting the module to the client computer via the network.

31. (New) The method of claim 4, wherein said media data comprises recorded media data.

32. (New) A method of distributing multimedia data to a remote client computer via a network, the method comprising:

receiving a request for an applet from the client computer via the network;

transmitting a Java module to the client computer via the network;

receiving a client computer specific parameter from the Java module on the client computer; and

streaming multimedia data to the client computer via the network according to the client computer specific parameter.

33. (New) The method of claim 32, further comprising launching the Java module on the client computer via the network.

34. (New) The method of Claim 32, wherein the client computer specific parameter is selected from the group consisting of video source selection, frame rate, compression level, image resolution, image brightness, image contrast, and image view.

35. (New) The method of Claim 32, wherein the multimedia data stream is sent to the client computer while another multimedia data stream is sent to another client at an independent rate according to a client specific parameter for said another client.

36. (New) The method of claim 32, wherein said multimedia comprises recorded multimedia data.

37. (New) A method of distributing video to a remote client computer via a network, the method comprising:

receiving a request for video from the client computer via the network;  
transmitting a module to the client computer via the network;  
launching the module on the client computer;  
sending video to the client computer at a predetermined rate via the network;  
monitoring the sending of the video to the client computer; and  
changing the predetermined rate to reflect an updated rate.

38. (New) The method of Claim 37, wherein the video is sent to the client computer while video is sent to another client at an independent rate.

39. (New) The method of Claim 37, further comprising viewing a selected region of a video image by the process comprising:

selecting a region of a video image to view on the client computer;  
sending a request to the host computer via a network requesting transmittal of data corresponding to the selected region of the video image; and  
sending data to the client computer via the network corresponding to the selected region of the video image.

40. (New) A method of distributing multimedia to a remote client computer via a network, the method comprising:

receiving a request for multimedia from a client computer via a network;  
transmitting a module to the client computer via the network;  
launching the module on the client computer;  
sending multimedia to the client computer at a predetermined rate via the network;  
monitoring the sending of the multimedia to the client computer; and  
changing the predetermined rate to reflect an updated rate.

41. (New) The method of Claim 40, wherein the multimedia is sent to the client computer at one rate while multimedia is sent to another client at an independent rate.

42. (New) A method of distributing audio to a remote client computer via a network, the method comprising:

receiving a request for audio from the client computer via the network;  
transmitting a module to the client computer via a network;  
launching the module on the client computer;  
sending audio to the client computer at a predetermined rate via a network;  
monitoring the sending of the audio to the client computer; and  
changing the predetermined rate to reflect an updated rate.

43. (New) The method of Claim 42, wherein the audio is sent to the client computer at the rate while audio is sent to another client at an independent rate.

44. (New) The method of Claim 42, further comprising adjusting the predetermined rate the audio is sent to the client computer comprising the steps of:

launching a delay monitoring module on the client computer  
detecting an audio transmission delay at the client computer;  
sending a request via a network to the host computer requesting a reduced audio transmission rate;  
sending a client computer specific parameter to the host computer via the network; and  
sending audio to the client computer via the network according to the client computer specific parameter.

45. (New) The method of Claim 44, wherein detecting the audio transmission delay occurs at a regular interval.

46. (New) The method of Claim 44, wherein detecting the audio transmission delay occurs at a specific departure from a current transmission rate.

47. (New) A method of distributing video and audio data to a remote client computer via a network, the method comprising:

receiving a request for video and audio data from the client computer via the network;  
transmitting a module to the client computer via the network;

launching the module on the client computer;  
sending video and audio data to the client computer at a predetermined rate via the network;  
monitoring the sending of the video and audio data to the client computer; and  
changing the predetermined rate to reflect an updated rate.

48. (New) The method of Claim 47, wherein the video and audio data is sent to the client computer at a rate while video and audio data is sent to another client at an independent rate.

49. (New) A system for distributing media from a host computer to a client computer via a network, the system comprising:

a media source configured to generate a media signal;

a main program module comprising one or more media capture modules;

a media capture module configured to monitor a media signal capture device and to transmit usable media in response to requests for media;

a server module that configures the host computer as a server and interfaces the host computer with a client computer; and

an interface manager to allow the host computer to communicate with the client computer.

50. (New) The system of Claim 49, wherein the interface manager comprises a TCP/IP socket operating system module to allow the host to communicate with the client.

51. (New) The system of Claim 49, further comprising an interface module configured to transfer information between the server module and the media capture module.

52. (New) The system of Claim 51, wherein the interface module is a common gateway interface module.

53. (New) The system of Claim 51, wherein the media is audio, video, or audio and video.

54. (New) The system of Claim 49, wherein the main program module determines video motion detection on a block level



55. The system of Claim 54, wherein the video motion is detected by the method comprising the steps of :

receiving a video image;

subdividing the video image into a grid of blocks;

processing every block from the grid of blocks according to the following:

determining a cross correlation by comparing an individual block from a current grid of blocks with a corresponding individual block from a previous grid of blocks;

if the cross correlation is below a predetermined correlation threshold level, then:

calculate the variance in the brightness of the block over the corresponding block of the previous image;

if the variance in the brightness is above a variance threshold, then mark the block as having motion;

if the variance in the brightness is below the variance threshold, then mark the block as not having motion;

if the cross correlation is above the predetermined threshold level, then mark the block as not having motion; and

repeating the processing until video motion detection is determined for every block in the grid.

56. (New) The system of Claim 49, wherein the main program module determines motion detection on a frame level.

57. The system of Claim 56, wherein the motion detection is determined by the method comprising the steps of:

obtaining a reference video frame;

obtaining a current video frame;

determining motion detection on a block level comparing the current video frame to the reference video frame such that a number of blocks with motion detection is determined;

calculating a fraction of video blocks having motion;

if the fraction is below a low threshold value, then no motion is detected for the current video frame;

if the fraction is above the low threshold value, then determine if the fraction is below a medium threshold value;

if the fraction is below the medium threshold value, then perform a slight response, log the motion and log the first 12 images having motion;

if the fraction is above the medium threshold value, then determine if fraction is below a high threshold value;

if the fraction is below the high threshold value, then perform a moderate response, log the motion and log the first 12 images having motion;

if the fraction is above the high threshold value, then perform a severe response, log the motion and log the first 12 images with motion.

58. (New) The system of Claim 57, wherein the slight response is selected from the group consisting of transmitting a first email notification to an address determined by the host user, sounding an audible alert, originating a phone call to a first number determined by the host user, and initiating predetermined control of external hardware.

59. (New) The system of Claim 57, wherein the moderate response is selected from the group consisting of transmitting a first email notification to an address determined by the host user, sounding an audible alert, originating a phone call to a first number determined by the host user, initiating predetermined control of external hardware, transmitting a second email message indicating the detected motion lies within the second range, and directing a second predetermined phone message to a phone number determined by the host user.

60. (New) The system of Claim 57, wherein the severe response is selected from the group consisting of transmitting a third email message to a predetermined address, originating a phone call with a "severe" message to a predetermined phone number, originating a phone call to a predetermined emergency phone number, controlling external hardware associated with severe responses.

61. (New) The method of Claim 57, wherein the logged images are time stamped.

62. (New) A method of distributing multimedia data to a client computer via a network, conserving network bandwidth by transmitting changed image blocks, the method comprising:

capturing an image;

dividing the image into blocks;

comparing a block to a corresponding block from a previously captured image to detect changed blocks;

marking the oldest blocks as having changed after a predetermined number of capturing cycles in order to refresh the image over time;

determining a compression level;

if a low compression level is determined, then

construct a header; and

create image data for the whole image;

if a medium compression level is determined, then

find a minimum region containing the changed blocks,

compare the fraction of changed blocks in the minimum region to a threshold value;

if the fraction of changed blocks is above the threshold value, then:

construct a header; and

create image data for the whole image;

if the fraction of changed blocks is below the threshold value, then

construct a stripe image and header; and

create image data for the stripe image;

if a high compression level is determined, then

construct a stripe image and header; and

create image data for the stripe image;

transmitting the image data to the client computer.

63. (New) A method of mirroring multimedia data by a mirror system comprising:

receiving at the mirror system requests for data from a host, said request coming from a plurality of client computers via a network;

launching modules on the plurality of client computers;

receiving at the mirror system from the modules on the plurality of client computers client computer specific parameters for each the plurality of client computers;

streaming data to the mirror system from the host computer via the network; and

streaming data to each of the plurality of client computers from the mirror system via the network according to the client specific parameter.

64. The method of claim 63, wherein the data is selected from the group consisting of multimedia, audio, video, and audio and video.

65. The method of claim 63, wherein the client specific parameter is selected from the group consisting of video source selection, audio source selection, audio and video source selection, frame rate, compression level, image resolution, image brightness, image contrast, processing capability of the client computer, IP address and image view.

66. The method of claim 63, wherein the plurality of client computers is selected from the group consisting of a microprocessor- or processor-controlled device or system that permits access to a network, including a terminal device, such as a personal computer, a workstation, a server, a client, a mini-computer, a main-frame computer, a laptop computer, a network of individual computers, a mobile computer, a palm-top computer, a hand-held computer, a set top box for a television, an interactive television, an interactive kiosk, a personal digital assistant, an interactive wireless communications device, and a mobile browser.

67. The method of claim 63, wherein said data requested from the host comprises a module.

68. The method of claim 67, further comprising transmitting the module to the client computer via the network.

69. The method of claim 63, wherein said data comprises recorded data.

70. The method of claim 63, wherein the receiving of the request by the mirror system is coordinated by a dynamic name system (DNS).

71. A system for mirroring data, comprising:

a mirror server comprising:

a server module configured to interface with a client computer via a network;

a client process module specific for each client computer that requests data from one or more hosts, wherein the client process module is configured to stream data to each client computer according to a client specific parameter;

a host process module configured to coordinate the connection to one of the one or more hosts, and configured to coordinate the streaming of data from the one of the one or more hosts; and

a mirror coordination module configured to coordinate the mirroring of data from the one or more hosts to each client computer that requests data from the one or more hosts via the mirror server, wherein the mirror coordination module coordinates the interface of the host process module with the client process module.

72. The method of claim 71, wherein the client process module streams data to a client computer according to a client specific parameter that is selected from the group consisting of video source selection, audio source selection, audio and video source selection, frame rate, compression level, image resolution, image brightness, image contrast, processing capability of the client computer, and image view.

73. (New) A method of mirroring multimedia data by a mirror system comprising:

receiving at a mirror system from a first plurality and a second plurality of client computers via a network a request for data from two hosts;

launching modules on the first plurality and the second plurality of client computers;

receiving at the mirror system from each of the modules on the first plurality and the second plurality of client computers a client computer specific parameter from each of the first plurality and the second plurality of client computers;

streaming data to the mirror system from the two host computers via the network;

and